CLAIMS

What is claimed is:

1. An electromechanical switch comprising:

a signal contact;

an actuation electrode;

a beam to electrically couple to the signal contact when an actuating voltage is applied to the actuation electrode; and

a coating to at least facilitate the existence of an arc reduction environment.

2. The electromechanical switch of claim 1, further comprising:

a cap coupled to a substrate to substantially enclose the signal contact, the actuation electrode, the beam, and the coating; and

the cap and the substrate cooperate to define the boundaries of the arc reduction environment.

3. The electromechanical switch of claim 1, wherein the coating comprises a hydride.

4. The electromechanical switch of claim 1, wherein the coating is disposed between the beam and at least one of a group consisting of the signal contact and the actuation electrode.

5. The electromechanical switch of claim 4, wherein the coating is applied to at least one of a group consisting of the actuation electrode, the signal contact, a first portion of the beam corresponding to the actuation electrode, and a second portion of the beam corresponding to the signal contact.

6. The electromechanical switch of claim 5, wherein

the signal contact, the actuation electrode, and the beam are comprised of respective materials having respective coefficients of secondary electron emissions, and

the coating is comprised of a material having a coefficient of secondary electron emission approximately lower than the coefficients of secondary electron emissions of the material over which it is applied.

7. The electromechanical switch of claim 6, wherein the coating includes titanium.

8. The electromechanical switch of claim 1, further comprising:

a protuberance disposed on a portion of the beam corresponding to the signal contact.

9. The electromechanical switch of claim 8, wherein at least a portion of the coating is applied to the protuberance.

10. The electromechanical switch of claim 8, wherein at least a portion of the coating comprises the protuberance.

11. A method of operating an electromechanical switch comprising:

applying an actuating voltage to an actuation electrode to cause a beam to be electrically coupled to a signal contact; and

maintaining an arc reduction environment adjacent the beam and signal contact, due at least in part to a coating disposed within the arc reduction environment.

12. The method of claim 11, wherein the coating comprises a hydride, and the method further comprises:

heating the hydride coating to a point that hydrogen is released, the released hydrogen increasing a pressure inside of the arc reduction environment.

13. The method of claim 11, further comprising:

sending a signal from a first signal line to a second signal line when the beam is electrically coupled to the signal contact.

14. The method of claim 13, wherein the signal contact includes an input signal contact and an output signal contact, and the sending comprises

sending the signal through the input and output signal contacts.

15. The method of claim 11, wherein the coating is applied to at least one of a group consisting of the actuation electrode, the signal contact, a first portion of the beam corresponding to the actuation electrode, and a second portion of the beam corresponding to the signal contact.

16. The method of claim 15, wherein

the signal contact, the actuation electrode, and the beam are comprised of respective materials having respective coefficients of secondary electron emissions; and

the coating is comprised of a material having a coefficient of secondary electron emission lower than the coefficients of secondary electron emissions of the material over which it is applied.

17. The method of claim 16, wherein the coating includes titanium.

18. A system comprising:

a bus;

a memory coupled to the bus; and

a circuit coupled to the bus, the circuit including an electromechanical switch having a signal contact, an actuation electrode, a beam to engage the signal contact

when a voltage is applied to the actuation electrode, and a coating to facilitate the existence of an arc reduction environment.

19. The system of claim 18, wherein the coating comprises a hydride.

20. The system of claim 18, wherein the coating is applied to at least one of a group consisting of the actuation electrode, the signal contact, a first portion of the beam corresponding to the actuation electrode, and a second portion of the beam corresponding to the signal contact.

21. The system of claim 20, wherein

the signal contact, the actuation electrode, and the beam are comprised of respective materials having respective coefficients of secondary electron emissions; and

the coating is comprised of a material having a coefficient of secondary electron emission lower than the coefficients of secondary electron emissions of the material over which it is applied.

22. The system of claim 21, wherein the coating includes titanium.

23. The system of claim 18, wherein the circuit further includes a processor.

24. The system of claim 23, wherein the system is a selected one of a group consisting of a network router, a wireless mobile phone, and a personal digital assistant.